

Figure 1 - FLUPSY

Provisional Patent Application

AN INTEGRATED SYSTEM FOR SHELLFISH PRODUCTION: Encompassing Hatchery, Nursery, Growout, and Broodstock Conditioning Phases

Inventor: Russell Patton Davis June 20, 2000

FIGURE 1 - FLUPSY (Floating Upweller System)

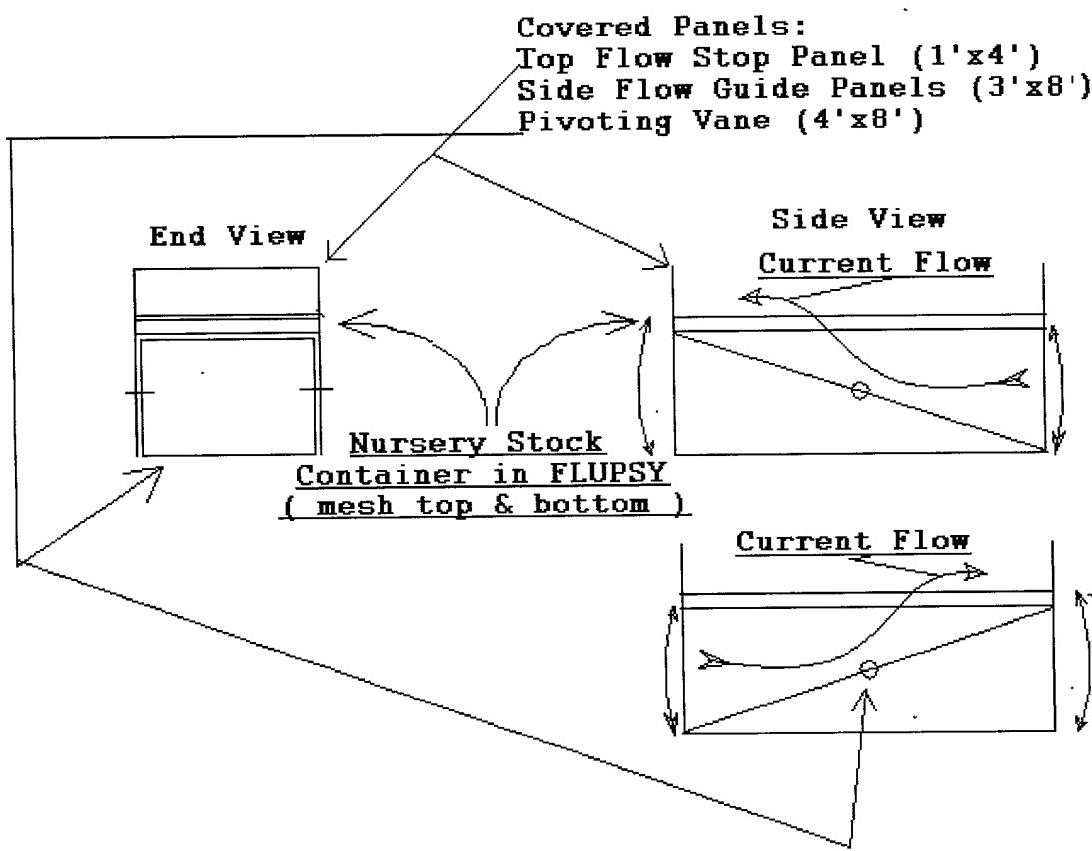


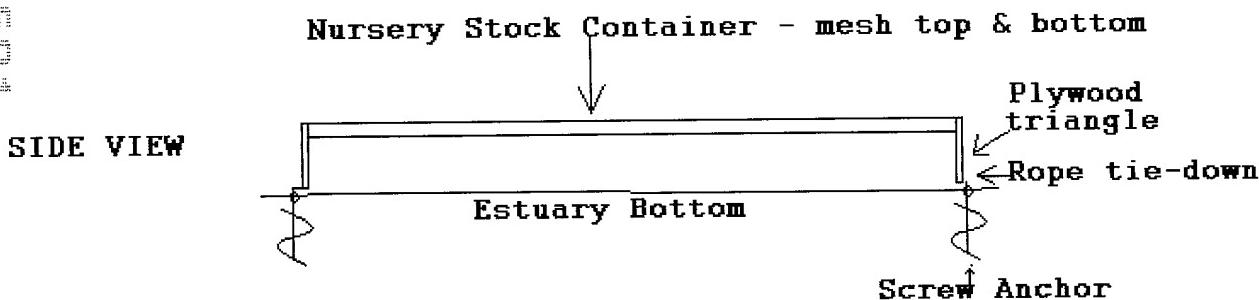
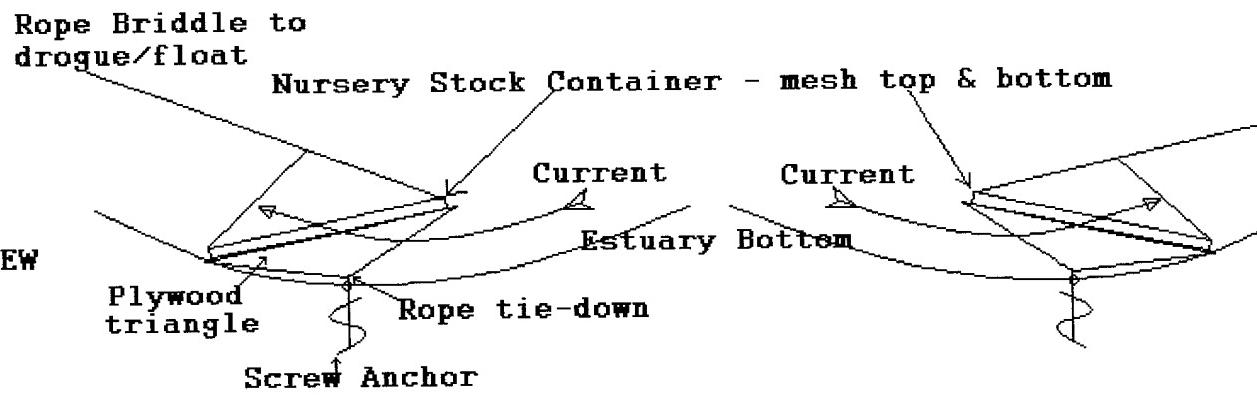
Figure 2 - BUPSY

Provisional Patent Application

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Inventor: Russell Patton Davis June 20, 2000

FIGURE 2 - BUPSY (Bottom Upweller System)



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Figure 3 - Nursery Stock Container

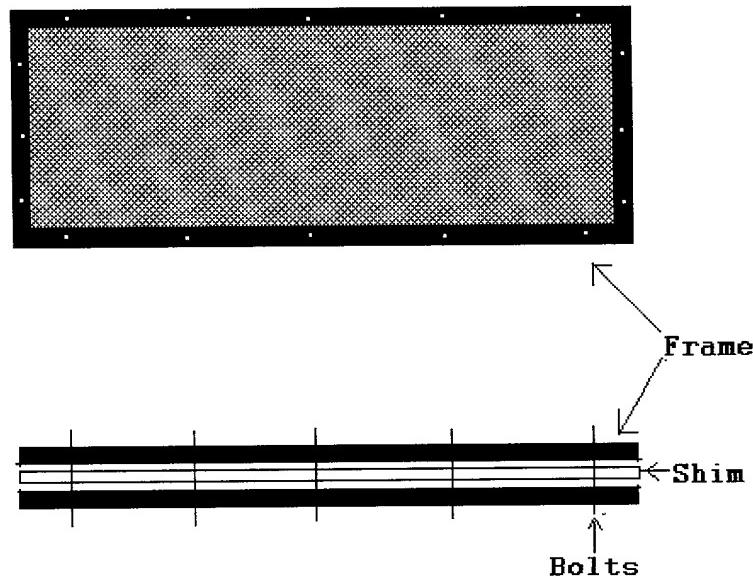
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Figure 3 - Nursery Stock Container - Mesh top and bottom, with solid and compressible shims, used in both FLUPSY and BUPSY

TOP VIEW - Two ridged frames, each covered with mesh (sized to retain shellfish), bolted together.



The frames are separated with a combination of ridged and compressible (closed cell foam) shims so that the shellfish are gently but securely held by the assembly.

SIDE VIEW

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Figure 4 - End View of Spawntoon

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Figure 4 - End View of Spawntoon Unit
consisting of FLUPSY sub-units and hatchery pools

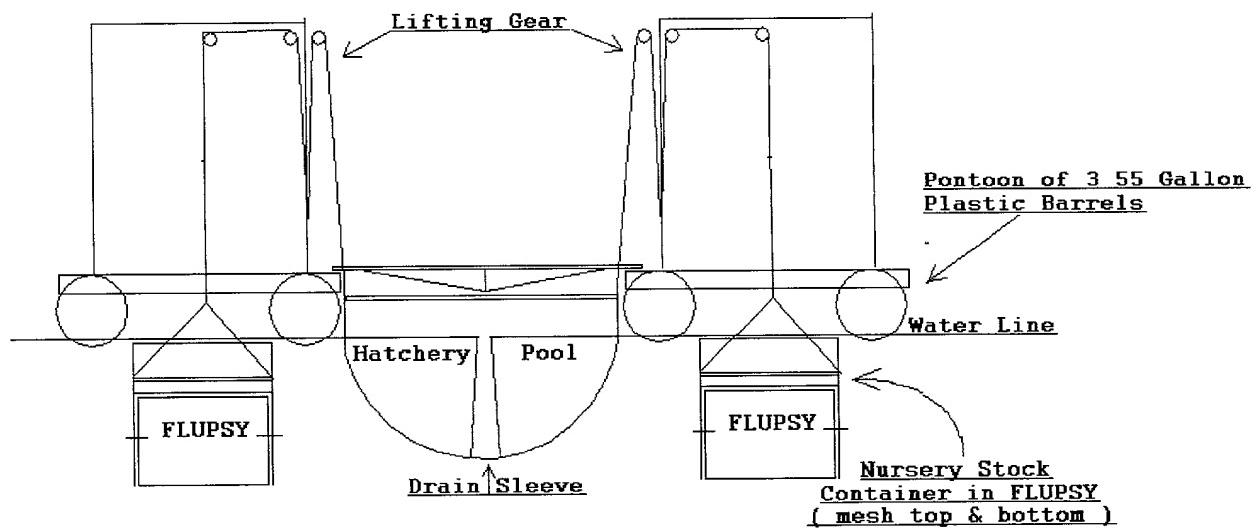


Figure 5 – Drain Device for floating hatchery live-well

Figure 5) Hatchery Live-Well Filled with filtered water for spawn. The drain device is plugged. The ridged frame of the Hatchery Pool is either held above the water by ropes or supported by the floatation of the live-well itself.

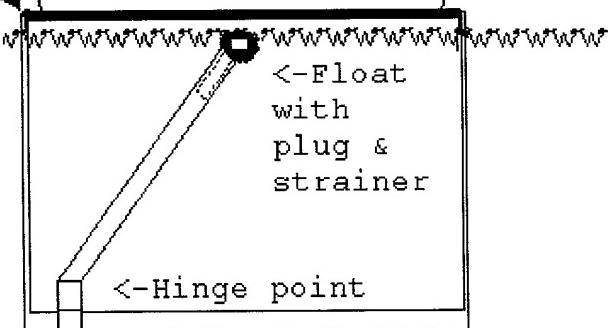


Figure 6 – SpawnToon Motorboat "The Mama Cass Ostrea"

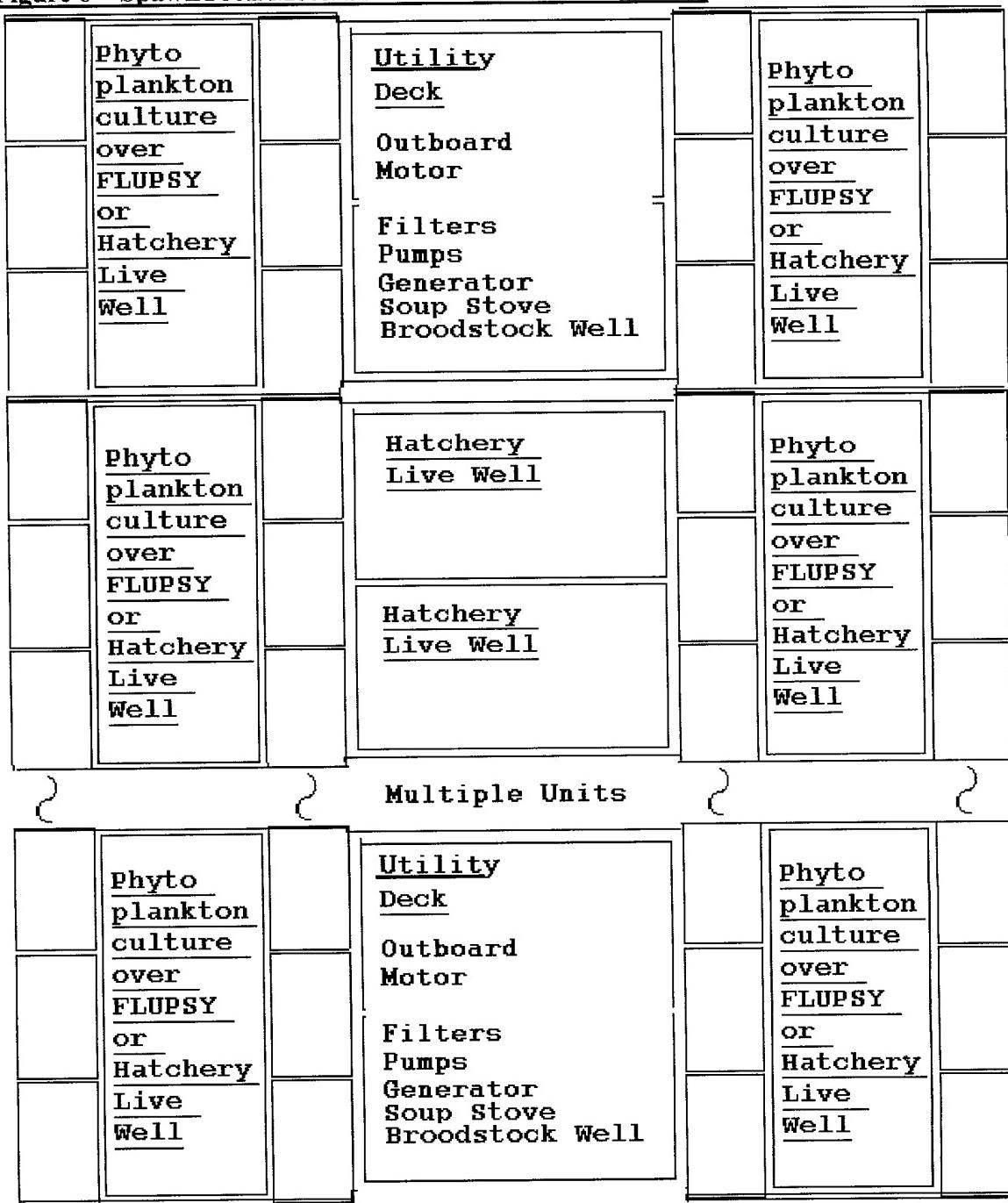


Figure 7 – Phytoplankton Culture: Culture Bag w/fittings, Stretcher resting on two pontoons

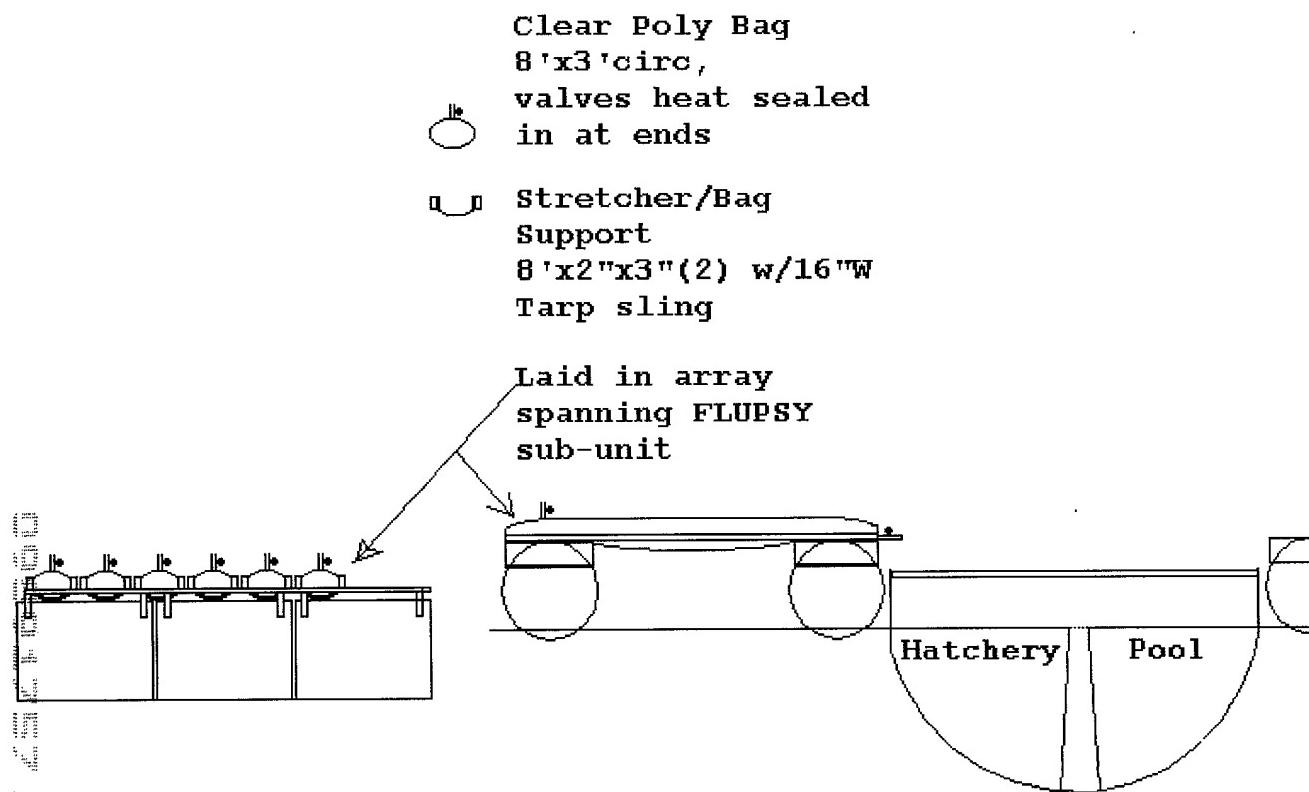
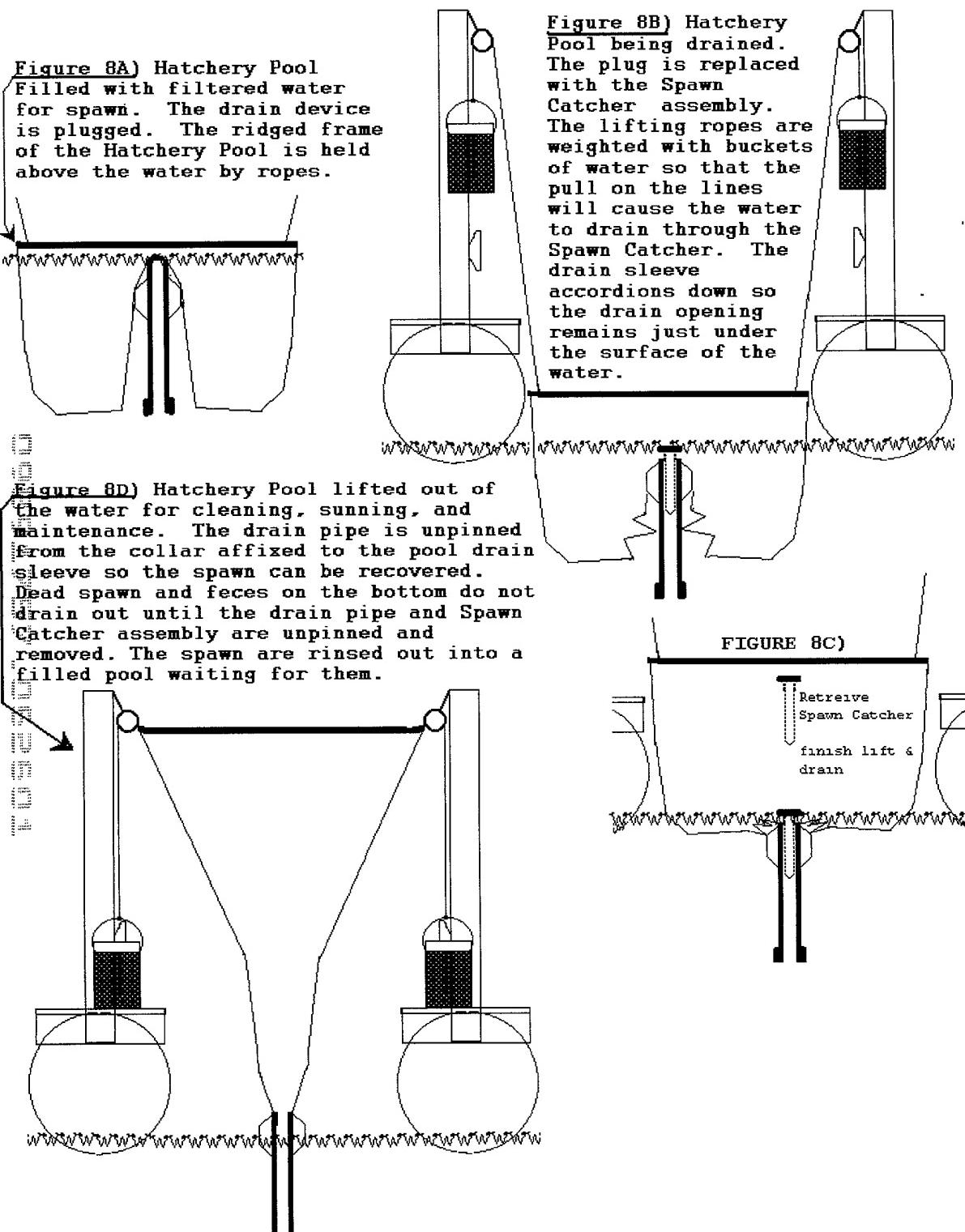


Figure 8 – Hatchery Live Well Drain-Sleeve and Spawn Catcher



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Figure 9 - Outboard Motor Mount (with DAVIS NOZZLE) slung underneath SpawnToon deck, Profile of the Tubular Shroud surrounding the propeller and bolted to the cavitation plate

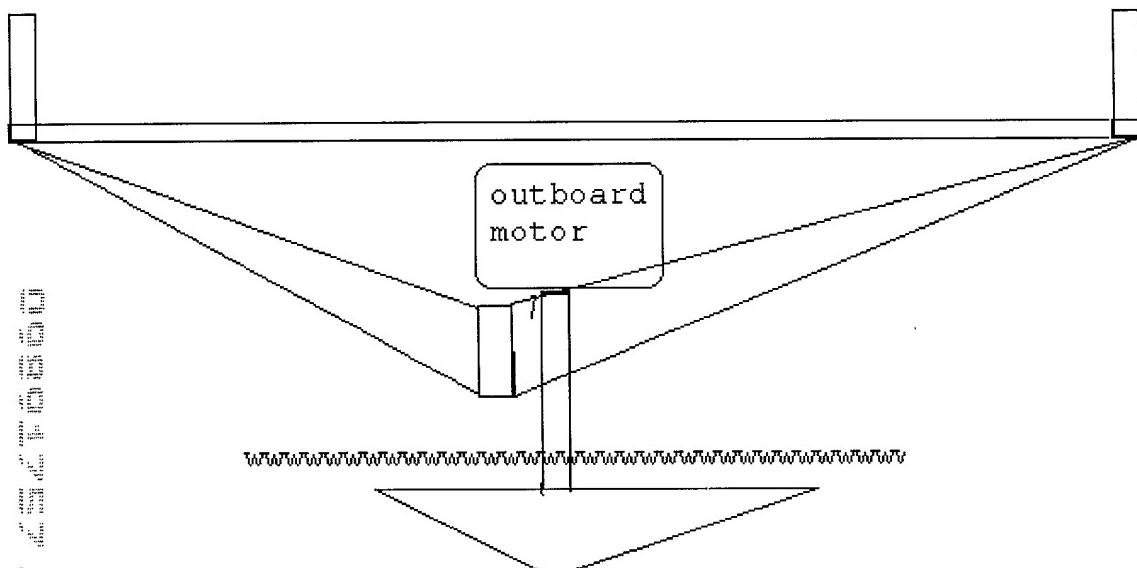


Figure 10 - Davis Harpoon anchor

Figure 10) DAVIS HARPOON ANCHOR

Made from 2 inch dia.
galvanized pipe 36 inches
long

one half the pipe is cut
from one half the length
to form a trough

the trough portion is
bent outward and cut to
form a point on the end

a bolt for
attaching the
anchor line is
placed in tube

anchor is washed
into place much
like a piling or
bulkheading

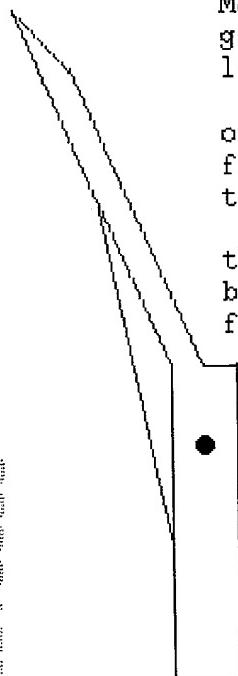


Figure 11 - TWWELLER

Figure 11 A) TWWELLER : side view

Two Way Upweller/Downweller Shellfish Growing Device

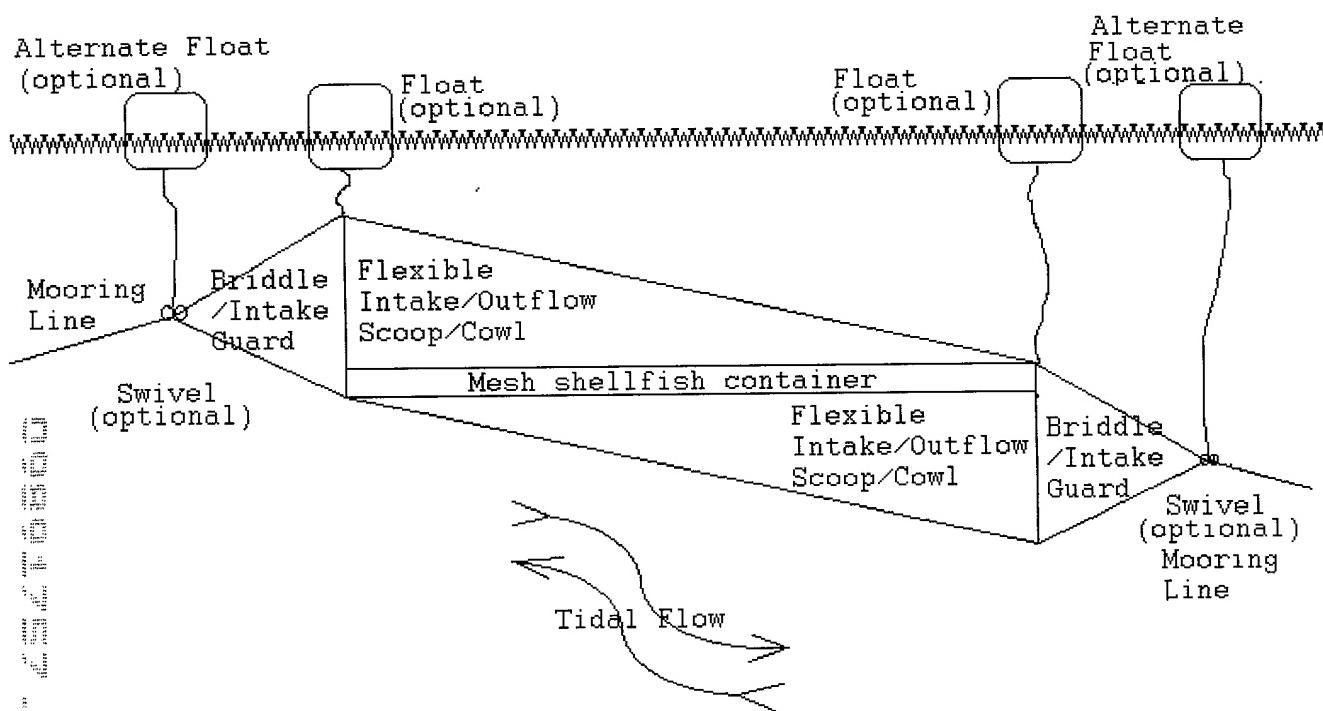


FIGURE 11 B) TWWELLER: end view

Rotating Option
on swiveled mooring

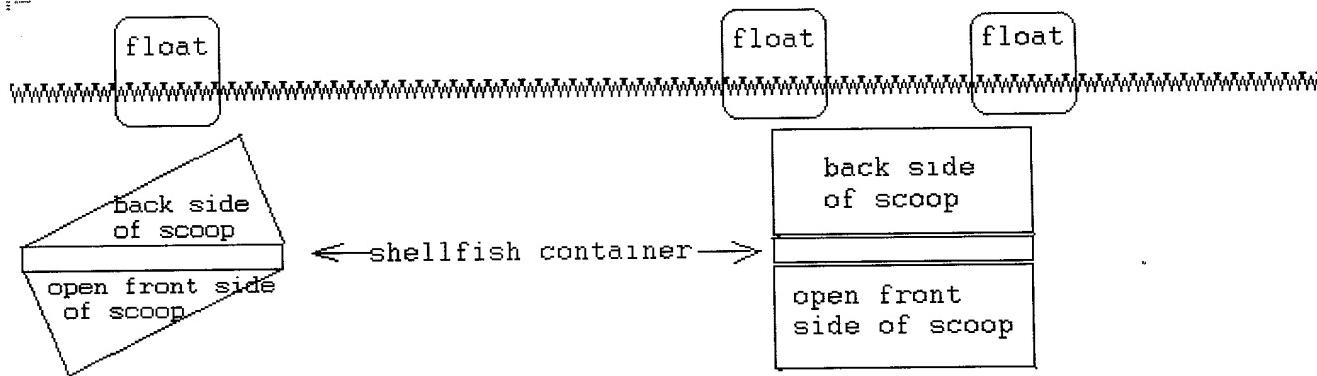
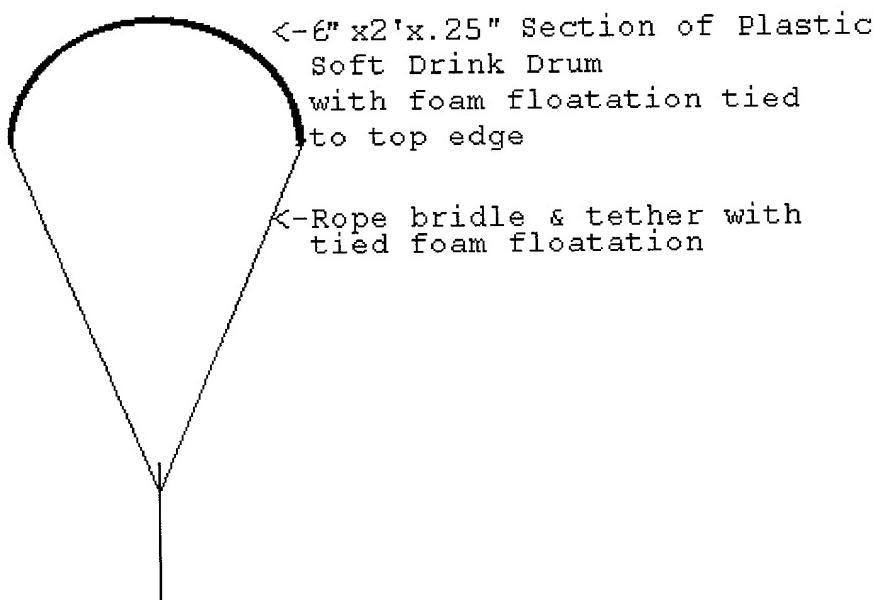


Figure 12 – Float-Drogue

Figure 12) Float-Drogue



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Figure 14 – Resuspension Drag Foil of CLAIM 17

Figure 14)

Resuspension Drag Foil

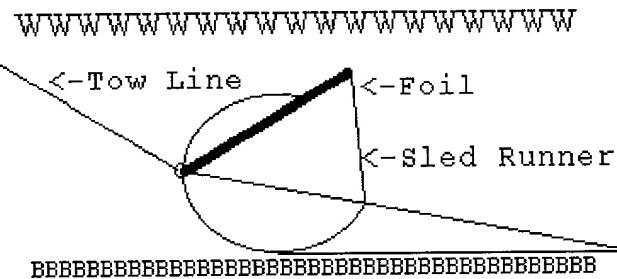


Figure 15 – Waffle Bulkhead

Figure 15) Waffle Bulkhead

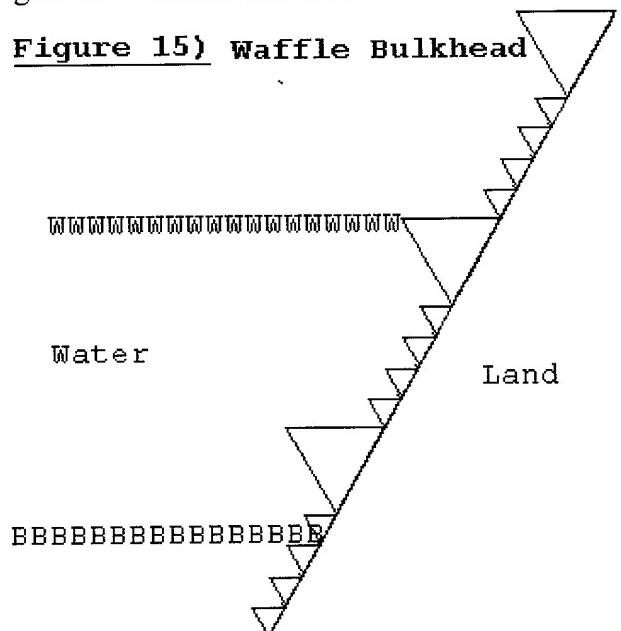


Figure 16 – Shellfish Geostructure of CLAIM 11

Figure 16)

**Shellfish Reef Geo-Structures
of Spartina Grass and Clam
Predator Exclusion Net**

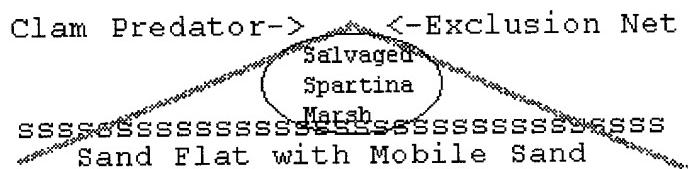
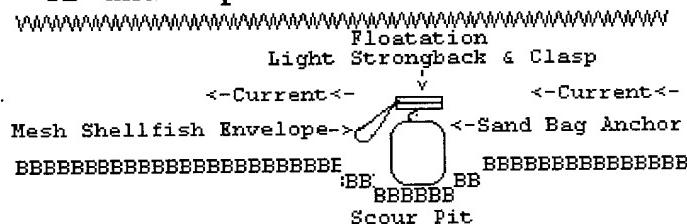


Figure 17 – BUPSY of CLAIM 8 (low current or below channel)

**Figure 17) BUPSY for lower current
or under possible boat traffic**



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Figure 18 – Shellfish Hatchery-Nursery Container of CLAIM 16: Set of two nested open top Self Cleaning screen set of CLAIM 7 used by the Marsupium

Figure 18)

**Shellfish Hatchery/Nursery
Container Assembly Consisting of
Two Nesting Open-Top Mesh
Covered Box Frames**

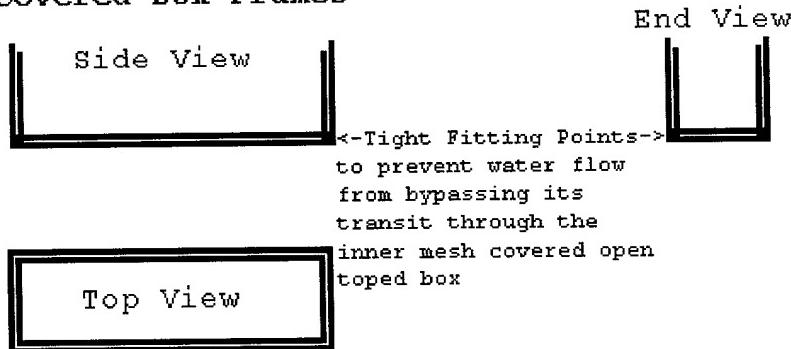


Figure 19 – Shellfish:SAV Polyculture Groin Substitute of CLAIM 18

Figure 19)

Living Groin made from a bed of Shellfish Predator Exclusion Net, & Sub-aquatic Vegetation

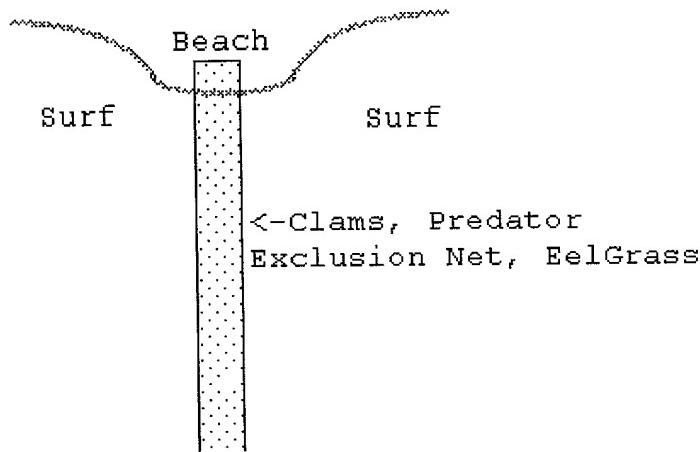
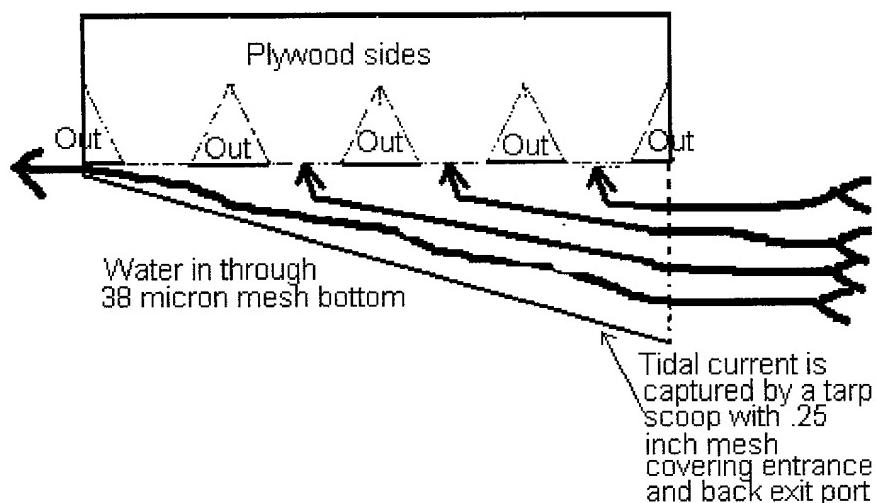


Figure 20 Foil Array of CLAIM 10 used for current powered directional sediment transport



Figure 21 Grounding Tolerant FLUPSY scoop of CLAIM 9 servicing a crenellated Marsupium.
Side View



Water out through triangular ports in the side
after passing through a 38 micron mesh crenellation panel

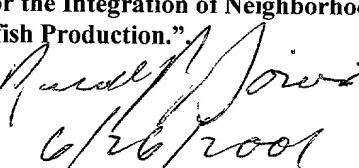
Plywood panel separates inbound water from outbound
water in the crenellation

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DECLARATION

DECLARATION:	<p>I, Russell Patton Davis, am the sole inventor of this "INTEGRATED SYSTEM FOR SHELLFISH PRODUCTION: Encompassing Hatchery, Nursery, Grow-out, Brood-stock Conditioning and Market Conditioning Phases; also Water Treatment, Food Supplement, Propulsion, Anchoring Security, and Devices for the Integration of Neighborhood Values and Shellfish Production."</p> <p>Signed: </p> <p>Dated: 6/26/2001</p>
Inventor Residence and Correspondence Address:	<p>613 Mango Dr., Virginia Beach, VA 23452 USA http://www.SweetWater-Oysters.com Russell_P_Davis@SweetWater-Oysters.com</p>
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